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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,867	01/14/2004	Yoshiki Kuhara	14925-009001	5194
20985 7590 02/12/2007 FISH & RICHARDSON, PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER DOAN, JENNIFER	
			ART UNIT	PAPER NUMBER
			2874	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		02/12/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/757,867

Applicant(s)

KUHARA ET AL.

Examiner

Jennifer Doan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-18 and 20-26 is/are rejected.
- 7) ☒ Claim(s) 5, 6 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>011404 & 022806</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The prior art documents submitted by applicant in the Information Disclosure Statements filed on 01/14/04 and 02/28/06, have all been considered and made of record (note the attached copy of form PTO-1449).

Drawings

3. The drawings, filed on 01/14/04, are accepted.

Specification

4. Applicants' cooperation is requested in correcting any errors of which applicants may become aware in the specification.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 7-18 and 20-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Kuhara et al. (JP 11-218651).

With respect to claims 1, 4 and 26, Kuhara et al. (figure 14) disclose an optical transceiver module for emitting transmitting light along a predetermined axis and receiving light having propagated along the predetermined axis, the optical transceiver module comprising a mount substrate (51, 70) disposed so as to intersect with the predetermined axis and having first and second principal surfaces facing each other (see figure 4); a transmitting semiconductor laser (62) mounted on the first principal surface and configured to emit light of a first wavelength; a receiving photodiode (73) mounted on the predetermined axis and on the second principal surface and configured to receive light of a second wavelength; a communicating hole (72) provided in a region of the mount substrate (51, 70) where the receiving photodiode is mounted, and letting the first and second principal surfaces communicate with each other; and a first filter (66) disposed on the predetermined axis and in a region intersecting with the first principal surface (see figure 14), and configured to reflect the light of the first wavelength and transmit the light of the second wavelength, wherein the light of the first wavelength having been emitted from the transmitting semiconductor laser (62) and propagating along the first principal surface is reflected by the first filter (66) and emitted as the transmitting light along the predetermined axis, and wherein the light of the second wavelength as the receiving light having propagated along the

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predetermined axis is transmitted by the first filter (66) and travels through the communicating hole (72) to be received by the receiving photodiode (73); and wherein the receiving photodiode (73) has a backside illuminated type structure.

With respect to claims 2 and 16, Kuhara et al. (figure 15) disclose the optical transceiver module, further comprising a monitoring photodiode (129) mounted on the first principal surface of the mount substrate so as to interpose the transmitting semiconductor laser (62) between the first filter (66) and the monitoring photodiode (129) and configured to receive backward light from the transmitting semiconductor laser (62).

With respect to claims 3 and 17, Kuhara et al. (figure 14) disclose the optical transceiver module, further comprising a monitoring photodiode (56) mounted on the first principal surface of the mount substrate so as to interpose the first filter (66) between the transmitting semiconductor laser (62) and the monitoring photodiode (56) and configured to receive light emitted from the transmitting semiconductor laser and transmitted by the first filter (66).

With respect to claim 7, Kuhara et al. (figure 14) disclose the optical transceiver module, further comprising an amplifier (77) mounted on the second principal surface and configured to amplify an electric signal from the receiving photodiode (73).

With respect to claim 8, Kuhara et al. (figure 14) disclose the optical transceiver module, wherein the mount substrate comprises a first substrate (51) including the first principal surface and a third principal surface facing the first principal

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surface; and a second substrate (70) including the second principal surface and a fourth principal surface facing the second principal surface, wherein the mount substrate is formed by assembling the first and second substrates in a state in which the third and fourth principal surfaces face each other (see figure 4).

With respect to claims 9 and 21, Kuhara et al. disclose the optical transceiver module, further comprising a lens (37, figure 4) for condensing the transmitting light and the receiving light, which is located on the predetermined axis so that the first filter is interposed between the receiving photodiode and the lens.

With respect to claims 10, 11 and 22, Kuhara et al. (figure 15) disclose the optical transceiver module, comprising a casing (119) for housing the mount substrate; wherein the casing comprises a first casing portion (121) located on the first principal surface side; and a second casing portion (120) located on the second principal surface side, wherein the mount substrate is housed in the casing in a state in which the mount substrate is sandwiched between the first casing portion and the second casing portion (see figure 15); and a casing (119) located on the first principal surface side of the first mount substrate, wherein the first mount substrate is sandwiched between the casing and the second mount substrate (see figure 15).

With respect to claims 12, 13, 23 and 24, Kuhara et al. disclose the optical transceiver module, wherein the mount substrate is covered by a resin body and wherein the lens is buried in the resin body (see paragraph [0055]); wherein a resin body is placed on the first principal surface of the first mount substrate and wherein

a resin body is placed on the first principal surface of the first mount substrate and wherein the lens is buried in the resin body (also see paragraph [0055]).

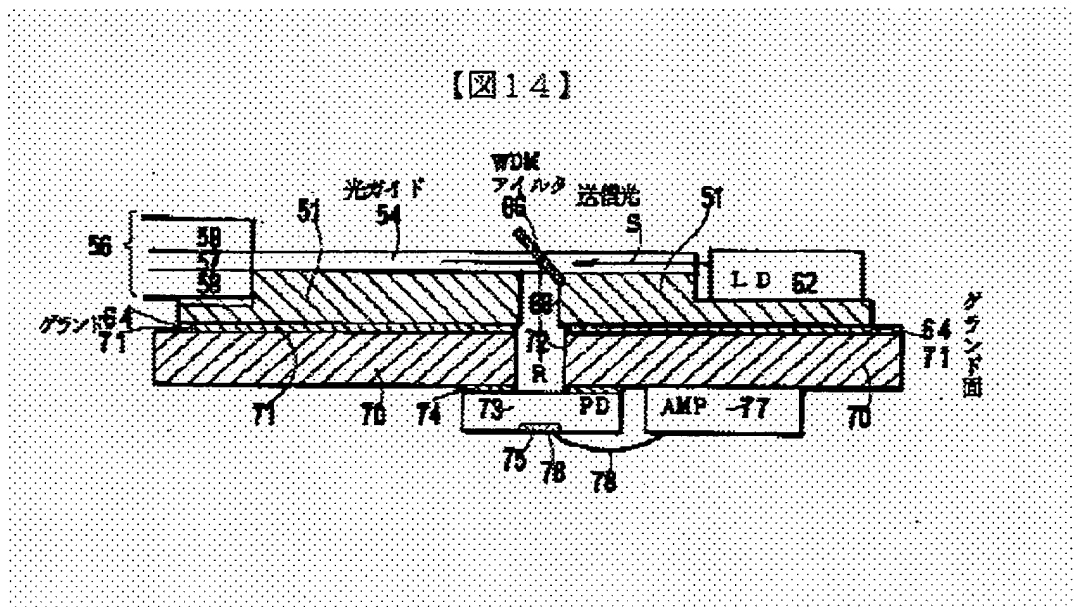
With respect to claims 14 and 25, Kuhara et al. (figure 15) disclose the optical transceiver module, comprising a fit (128) portion provided on the first principal surface side of the mount substrate and configured to hold a ferrule with an optical fiber therein in a fit state.

With respect to claims 15 and 18, Kuhara et al. (figure 14) disclose an optical transceiver module for emitting transmitting light along a predetermined axis and receiving light having propagated along the predetermined axis, the optical transceiver module comprising a first mount substrate (51) disposed so as to intersect with the predetermined axis and having first and second principal surfaces facing each other (see figure 4); a transmitting semiconductor laser (62) mounted on the first principal surface and configured to emit light of a first wavelength; a communicating hole (72) provided in a region where the predetermined axis intersects with the first mount substrate (50), and letting the first and second principal surfaces communicate with each other; a second mount substrate (70) disposed so as to intersect with the predetermined axis and having third and fourth principal surfaces facing each other (see figure 4); a receiving photodiode (73) mounted on the predetermined axis and on the third principal surface and configured to receive light of a second wavelength; and a first filter (66) disposed on the predetermined axis and in a region intersecting with the first principal surface (see figure 14), and configured to reflect the light of the first wavelength and transmit the light of the second wavelength, wherein the first mount

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substrate (51) and the second mount substrate (70) are assembled so that the second principal surface faces the third principal surface, wherein the light of the first wavelength have been emitted from the transmitting semiconductor laser (62) and propagating along the first principal surface is reflected by the first filter (66) and emitted as the transmitting light along the predetermined axis, and wherein the light of the second wavelength as the receiving light having propagated along the predetermined axis is transmitted by the first filter (66) and travels through the communicating hole (72) to be received by the receiving photodiode (73); and wherein the receiving photodiode (73) has a frontside illuminated type structure.

With respect to claim 20, Kuhara et al. (figure 14) disclose the optical transceiver module, comprising an amplifier (77) mounted on the third principal surface of the second mount substrate and configured to amplify an electric signal from the receiving photodiode (73).



Allowable Subject Matter

7. Claims 5, 6 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art fails to disclose or reasonably suggest the optical transceiver module, wherein a second filter for shutting out the light of the first wavelength is provided between the receiving photodiode and the second principal surface of the mount substrate as recited in claims 5 and 19 and wherein the receiving photodiode has a filter layer for absorbing the light of the first wavelength as recited in claim 6.

Conclusion


8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Inoue et al. (U.S. 6,188,495) and Spaeth et al. (U.S. 5,566,265) disclose an optical transmission-reception apparatus.
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-2346. The examiner can normally be reached on Monday to Thursday from 6:00am to 3:30pm, second Friday off.
10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JD

February 2, 2007


JENNIFER DOAN
PRIMARY EXAMINER